

An Eleméntàry Linguistic Definition of Upstate New York

Aaron J. Dinkin and Keelan Evanini

1 Introduction

This paper deals with an unexpected dialectological feature of Upstate New York, having to do with the pronunciation of words such as *elementary*, *documentary*, and *complimentary*—i.e., words with the suffix *-ary* following *-ment*, which in standard American English carry primary stress on *-ment*. In data collected in the study discussed by Dinkin & Labov (2007), words of this type were very frequently pronounced with secondary stress on the penultimate syllable, leading to a stress clash between the primary-stressed antepenult and the secondary-stressed penult; this pronunciation can be loosely notated as *-mémentàry*.

From a phonological and morphological perspective, it is not hard to conjecture a plausible origin for the stressed-penult pronunciation. The large majority of words ending in the morpheme *-ary* standardly have a secondarily-stressed penultimate in American English (cf. *dietary*, *missionary*, *fragmentary*, etc.). Of the 165 *-ary* words in Muthmann (2002), 116 (70%) have a stressed penult, including almost all of those with synchronically transparent morphological structure, and 12 of the remaining 49 are words of the *-mentary* type. The shift to a stressed penultimate in *-mentary* words, then, is a simple analogical change—it is a regularization of the pronunciation of the morpheme *-ary* to be the same in *-mentary* words as it is in most of the other words in which it appears.¹

This paper reports the results of three studies examining the geographic distribution of this *-mémentàry* pronunciation in and around New York State. The empirical results stem from interviews with 178 speakers in specific towns of interest and a rapid and anonymous telephone survey covering additional speakers from 188 towns throughout the region where the *-mémentàry* pronunciation is found and reaching to its outer edges. Since no previous studies exist that document the distribution of this pronunciation variant, the primary goal of this research is to describe its geographic distribution as completely as possible. In addition, we analyze the relationship between the distribution of the *-mémentàry* pronunciation and other isoglosses that serve as boundaries between major dialect regions in the area. The analysis shows that the geographic extent of the *-mémentàry* pronunciation does not pattern closely with dialect regions defined by phonological criteria; rather, it coincides more closely with the cultural boundary delimiting the region of Upstate New York. We argue that this type of linguistic boundary is caused primarily by communication patterns (as opposed to constraints internal to the linguistic system), and that it is more likely to be observed in variants involving analogical change, such as the *-mémentàry* pronunciation.

2 Study I: Eastern New York

2.1 Methodology and Overall Results

The first study is based on a set of 119 interviews conducted with speakers from 23 communities mostly in the eastern half of New York State, collected as part of a project exploring the eastern boundary of the Inland North dialect region; full details on this sample and the communities selected can be found in Dinkin (2009). The bulk of this sample consists of 91 interviews conducted in person in New York State according to the Short Sociolinguistic Encounter methodology of Ash (2002); at the end of these interviews, subjects were asked to read a word list including *elementary*, *sedimentary*, *documentary*, and *complimentary*.² The sample also includes

¹The studies reported below collected a small number of tokens of these words in which not only was there secondary stress on the penultimate syllable, but primary stress was retracted all the way to the first syllable: *dódocumentàry*. This pattern occurred only in wordlist style, in less than 6% of wordlist tokens. For purposes of this analysis, these tokens will be grouped with the stressed-penult *-mémentàry* tokens, since they can be taken to involve the same analogy affecting *-ary*.

²In the city of Utica, *rudimentary* was used instead of *elementary* and *sedimentary*.

28 telephone interviews conducted according to the methodology of Labov et al. (2006); in these interviews, the words *elementary* and *documentary* were elicited by asking direct elicitation questions such as “What’s the term for the kind of movie that’s about facts about history or science?” Aside from formally elicited tokens (whether through wordlists or telephone elicitation), a small number of tokens of the word *elementary* in connected speech were collected, mainly when subjects were asked where they had attended school.

A total of 425 tokens of *-mentary* words were collected in this study. Tokens were coded by ear as using either the stressed-penultimate *-mémentary* pronunciation or the reduced-penultimate standard pronunciation; 15 were discarded as too difficult to judge. Table 1 shows that among the remaining 410 tokens of the five *-mentary* words, the non-standard stressed penultimate is very frequent: it appears in a total of 79% of all *-mentary* tokens. *Elementary* is the least favorable lexical item for the stressed penult, using the stressed penult “only” 70% of the time. The results from Study I also confirm that the pronunciation of *-mentary* exhibits intra-speaker as well as inter-speaker variation: 26 of the 119 speakers sampled produced both stressed-penult and reduced tokens.

Word	% stressed penult	<i>n</i>
<i>elementary</i> (phone & wordlist)	70%	114
<i>elementary</i> (spontaneous)	70%	20
<i>rudimentary</i>	75%	8
<i>documentary</i>	81%	108
<i>complimentary</i>	84%	79
<i>sedimentary</i>	86%	81
Total	79%	410

Table 1: Results by lexical item and style in Study I.

In addition to being the least favorable lexical item for the stressed penult, *elementary* also shows striking differentiation between age groups. Table 2 displays the result of a multiple logistic regression including an interaction between age and lexical item as a factor group: the oldest age group has a much lower rate of stressed penult on *elementary* than on other *-mentary* words, even given *elementary*’s status as the least favorable lexical item for the stressed penult. As apparent-time data, this supports the hypothesis that the stressed penult is an innovation, in which the oldest speakers trail behind younger age groups especially in the least favored lexical item.

lexeme	age group	factor weight	<i>n</i>
<i>elementary</i>	oldest	.093	14
<i>elementary</i>	other	.396	120
other	oldest	.422	32
other	other	.592	244

Table 2: Logistic regression showing interaction between age and lexical item.³ “Oldest” includes speakers born before 1943.

These results support the hypothesis that the stressed penult originated as an analogical change in the pronunciation of the morpheme *-ary*. It is a commonplace in historical linguistics that more frequently used lexical items are more likely to resist the effects of analogical change,⁴ and therefore we should expect the most common of the *-mentary* words to be the least advanced in the shift to the stressed penult. Data from the first release of the American National Corpus⁵ indicates that *elementary* is by far the most frequent *-mentary* word in spoken American English: *elementary* appears in the spoken portion of the corpus 99 times, while all other *-mentary* words

³No significant differences were found between age groups other than the oldest, or between lexical items other than *elementary*. Other factors not found significant in this regression are age group alone, lexeme alone, gender, and style. Hometown was selected as significant and will be discussed below.

⁴E.g., Bynon (1977:43); and Hooper (1976) cites this observation as far back as the late 19th century (Paul [1890] 1970).

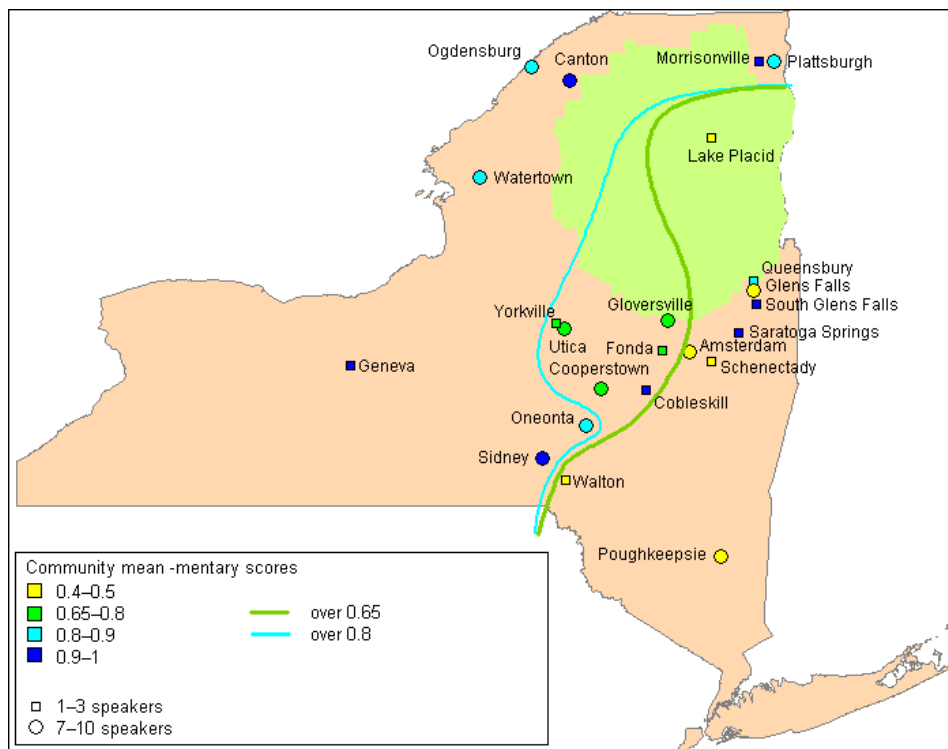
⁵Available via <http://www.americannationalcorpus.org/frequency.html>; downloaded 14 August 2009.

combined make a total of 21 appearances. This being the case, we would expect *elementary* to show the greatest resistance to the stressed penult—and that is exactly what we find.

2.2 Geographic results

The stressed penult is well attested throughout the entire region of this sample. We can define a *-mentary* score for each community in the data in the following manner: assign each speaker a score equal to the percentage of *-mentary* tokens that person produced with a stressed penult; and the community score can be defined as merely the average of the scores of the speakers from that community. Under this definition, every community sampled in this study has a *-mentary* score higher than 40%.

As Map 3 shows, however, an unexpectedly clear geographic pattern appears in the community *-mentary* scores, with higher scores further west and north and lower scores further east and south. The only exceptions to the isoglosses on Map 3 are a few communities in which only two or three speakers were interviewed (Queensbury, South Glens Falls, Saratoga Springs, and to a lesser extent Cobleskill); but the samples in these communities are small enough that some of their relatively high scores might merely be statistical accident. The communities with 7–10 speakers sampled are grouped perfectly into three regions by the isoglosses on Map 3: those with low scores between 40% and 50% line up along the eastern edge of New York State; west of that there is an intermediate region of scores between 65% and 80%; and then scores higher than 80% are spread out around the north and west. The geographical data combined with the apparent-time data suggest that the stressed penult may have originated in the western or central part of New York and spread eastward, and has not quite gone to completion at the eastern edge of the state yet.



Map 3. Community *-mentary* scores for Study I.

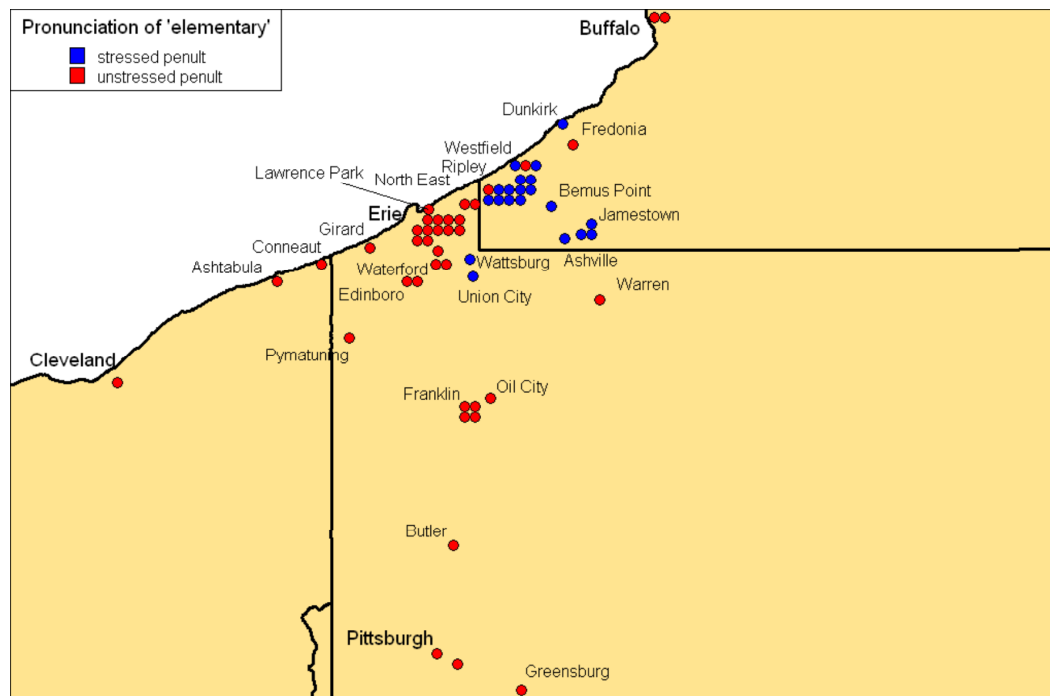
An unexpected finding is that the isoglosses on Map 3 bear no relationship to the dialect regions that may be defined on the basis of phonological features. Dinkin (2009) finds that Glens Falls, in the region of low *-mentary* scores, is phonologically part of the Inland North with such cities as Gloversville, Watertown, and Ogdensburg, which are in regions where the stressed penult is more dominant. Similarly, the isoglosses on Map 3 separate Lake Placid from Canton,

Plattsburgh, and Morrisonville, with which it is grouped into the North Country region on the basis of phonological features. On the other hand, Ogdensburg and Canton, which are completely different in terms of phonological features, are grouped together with respect to *mentary*. So major phonological features appear to have no control over *-mentary*.

The Study I data cannot, however, show us the outermost limits of the stressed-penult pronunciation, since it is robustly present throughout the entire sampled area. It seems to have originated further west than the sample demonstrates; but in order to find out how much further west it is necessary to look beyond the Study I sample. An anecdotal report from Sinhababu (2007) expands the known range of the stressed penult west to Rochester, N.Y.; Study II pursues it further, to the western edge of New York State.

3 Study II: Western New York and Western Pennsylvania

Study II was conducted as part of a larger project examining the boundary between the North and Midland dialect regions around the city of Erie in northwestern Pennsylvania. Early dialect research (Kurath 1949, Kurath & McDavid 1961) suggested that Erie was part of the North rather than the Midland. More recent data, on the other hand, (Labov et al. 2006) found the low back merger, which is associated with the Midland in this area, to be complete in Erie, while the key feature of the North, the Northern Cities Shift, was completely absent. In this project, pronunciations of the word *elementary* were elicited through wordlist reading as part of in-depth sociolinguistic interviews with 59 speakers in 26 communities in northwestern Pennsylvania and western New York; details on the sample can be found in Evanini (2009).



Map 4. Incidence of the stressed penult in Study II.

Map 4 shows that the southwestern boundary of the stressed penult in *-mentary* in this region corresponds very closely with the Pennsylvania–New York border: 18 out of 21 speakers in Chautauqua County, the westernmost county of New York, produced the stressed penult, while only two out of 33 speakers in western Pennsylvania did so. These two speakers are elderly women, residents of small farming communities very close to the state line; more apparent-time data would be necessary to determine whether this might represent a change away from the stressed penult on the Pennsylvania side of the boundary, or whether the *-mentary* isogloss stably deviates from the state line here. In either case, there does not seem to be evidence from this

region indicating that the *-méntary* pronunciation is the innovative form in a change in progress (as was shown for the eastern part of New York in Study I). This suggests that stressed penult existed earlier in the western part of the state, and is spreading eastward.

Interestingly, evidence from one speaker interviewed in this area demonstrates that the stress variation in *elementary* occurs above the level of consciousness. This speaker (a middle-aged woman) grew up in Cleveland, Ohio, but currently resides in Findley Lake, N.Y., a town located in Chautauqua County about halfway between Wattsburg and Ripley (which are shown on Map 4), and just one mile east of the border with Erie County, Pennsylvania. As the topic of the interview with this speaker turned to regional pronunciation differences, the first thing she said was “Everyone around here says *eleméntary*, but I say *elementary*.” At this point she had not seen the word list, and had no reason to know that this variable was part of the study. This clearly shows that the non-standard Upstate New York stress pattern is salient to speakers from other dialect regions.

Whereas in Study I the *-mentary* isogloss bore no particular relationship to phonologically-defined dialect regions, in Study II the *-mentary* isogloss coincides fairly closely to the isogloss for the low back merger, with merger present in Pennsylvania and not in New York. The exception is Ripley, the westernmost town in New York State; here the low back merger is in progress, spreading across the state line from Pennsylvania, but all younger speakers in this sample pronounced *elementary* with a stressed penult.

4 Study III: Rapid and Anonymous Telephone Survey

The purpose of the third study was to get a broader picture of *-mentary* variation and find the outer geographical limits of the stressed penult in all directions. The methodology of this study, inspired by a rapid and anonymous telephone study of the low back merger carried out by William Labov in 1966 (and described in Labov et al. 2006:65), involved telephoning school district offices and elementary schools and eliciting pronunciations of the word *elementary* from whoever answered the phone. The word was elicited by asking simple questions such as “What is the full name of this school?” or “How many schools of each age group are there in this district?”; in a few cases the person answering the phone⁶ produced the word unprompted. Whenever feasible, a second token was elicited by asking “I’m sorry, say that again?”, following the technique originally developed by Labov ([1966] 2006).

In 56 of the 62 counties in New York State, tokens of *elementary* were collected from each of two distinct school districts,⁷ including whenever possible the most populous city or village in the county and a second district in a geographically distinct part of the county from the first one. Data was also collected from counties in Pennsylvania, Massachusetts, Vermont, and eastern Ontario along the border with New York State, and additional districts as far into each as necessary until stressed-penult tokens stopped appearing. In some of the Northern Tier of counties in Pennsylvania, data was collected from more than two districts in order to be able to define the outer geographical limit of the stressed penult more precisely; and in the two most populous counties located just south of the Northern Tier (Lackawanna County, containing Scranton, and Lycoming County, containing Williamsport), a much larger amount of data was collected in order to have a better sample of the most densely-populated parts of northern Pennsylvania.

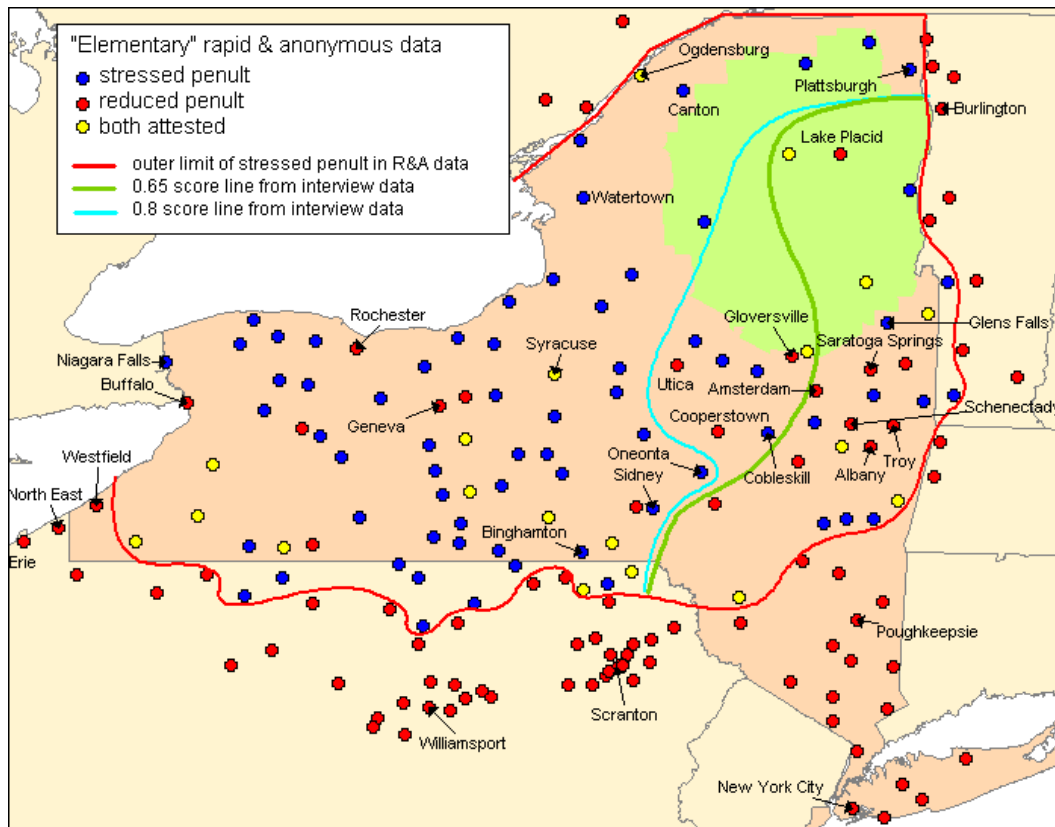
Since it is impossible to be certain that the people who answer telephones in schools and school district offices are natives of the communities in which they work, there is an inescapable level of imprecision in the data this study produces. Notwithstanding this, as we will show below, the stressed-penult telephone data shows a striking level of regional consistency; however, the exact location of the isogloss drawn should not be taken as totally reliable. Moreover, the only lexical item collected in the telephone survey is *elementary*, which was shown in Study I above to be less favorable to the stressed penult than other *-mentary* words; therefore Study III might be

⁶Or recorded voicemail message, although we made every effort to reach a live speaker in each district.

⁷The exceptions are Hamilton County and the five counties constituting New York City. Since New York City is a single speech community, only one data point was collected to represent the entire city. Hamilton County is extremely sparsely populated and contains very few schools, and we were not able to elicit a token of *elementary* from anyone in the district.

expected to underestimate the full geographic extent of the stressed penult.

The results of Study III are shown on Map 5. The red isogloss on Map 5 shows the maximum geographical extent of the stressed-penult pronunciation of *elementary*; no stressed-penult tokens were collected in Study III from any community outside that line. As expected, however, this study does somewhat underestimate the known range of the stressed penult: Poughkeepsie and Westfield are outside the isogloss, but we know from Studies I and II that the stressed penult at least exists in both of them.



Map 5. Incidence of the stressed penult in Study III; the blue and green isoglosses are copied from Map 3.

Study III confirms the basic geographic pattern of Study I: the stressed penult exists all the way to the eastern border of New York State, but with a lower rate further east. Thus, in the area on Map 5 bordered by the red and blue isoglosses, 82% of tokens of *elementary* in Study III were produced with the stressed penult; but in the area further east, bounded by the red and green isoglosses, the incidence of the stressed penult in Study III is only 52%. Study III also confirms the key geographic finding of Study II: the stressed penult is absent in northwestern Pennsylvania.

The stressed penult is not in evidence in most of the sampled communities outside New York State; but it is found in a couple of sampled communities in southwestern Vermont and a larger number of communities in the northern tier of counties in Pennsylvania. The location of the *-mentary* isogloss in north-central Pennsylvania in particular seems to resemble the historical location of the dialect boundary between the North and Midland: the regions defined by Kurath (1949) also grouped Pennsylvania's Northern Tier linguistically with Upstate New York rather than the rest of Pennsylvania.

Now, as noted above, the area around Erie in northwestern Pennsylvania was also assigned to the North by Kurath (1949), but this region's present-day phonological situation places it outside the North (Evanini 2009; Labov et al. 2006). Northwestern Pennsylvania is also outside the stressed-penult *elementary* region, as found in Study II. So the western end of the *elementary* isogloss roughly corresponds with the present-day location of the North/Midland boundary; and

further east, the isogloss roughly corresponds with the historical North/Midland boundary. So the interesting fact here is that the North/Midland boundary's location has changed substantially in the northwestern corner of Pennsylvania around Erie, but not so much further east in the Northern Tier. The reason for this probably has to do with communication patterns: Evanini (2009) shows that there has always been a relatively high degree of traffic and communication between northwestern and southwestern Pennsylvania. But further east, as demonstrated by Labov (1974), there has historically been a low rate of communication across the North/Midland boundary, between the Northern tier and the rest of Pennsylvania. So in northern Pennsylvania in general, the distribution of the stressed penult in *-mentary* seems to follow the lines that would be predicted by communication patterns.

To the extent that we have data from Ontario, the *-mentary* boundary appears fairly sharp, with stressed penult in New York and reduced penult in Ontario; sharp isoglosses between the U.S. and Ontario are what we expect to find, based on such research as Chambers (1994) and Boberg (2000). On the other hand, the stressed penult does seem to bleed over from New York State into southern Vermont. This is just the region where Labov et al. (2006) find features of the Northern Cities Shift bleeding over into southern Vermont as well,⁸ so it is not too surprising to find the stressed penult following roughly the same pattern.

The southeastern boundary of the stressed-penult region, however, does not correspond to any other known dialect boundary. It is too far south to be the boundary between the Inland North and the Hudson Valley dialect region as defined by Kurath (1949) or Dinkin (2009); but by the same token it is too far north to be the boundary between the Hudson Valley and the New York City dialect region. While it does not correspond to any other linguistic boundary, however, it does appear to correspond to a major boundary of another kind: the boundary between Upstate and Downstate New York. While the exact location of the boundary between "Upstate" and "Downstate" is notoriously hard to formalize, Upstate can be loosely characterized as that part of New York State that is far enough north to be beyond the immediate New York City metropolitan area. Although this is not a major linguistic boundary, it is a major *cultural* boundary: residents of New York State are in general aware of the difference between Upstate and Downstate as major regions of the state with cultural significance, in a way that they are not aware of dialect regions such as the Inland North.⁹ Thus the stressed-penult *-mentary* appears to be basically a unifying linguistic feature of Upstate New York.

Finally, there is some evidence from Study III that larger cities resist the stressed-penult pronunciation. The nine largest cities in Upstate New York, all with populations greater than 40,000 as of the 2000 U.S. Census, are Buffalo, Rochester, Syracuse, Albany, Schenectady, Utica, Niagara Falls, Troy, and Binghamton; these are all labeled on Map 5. Only three of these nine cities (Syracuse, Niagara Falls, and Binghamton) have even one token of stressed-penult *-mentary* in the Study III data, while on the other hand, fully 87% of the other communities within the red isogloss on Map 5 produced the stressed penult. In other words, there is a much lower incidence of stressed penult from cities with population over 40,000 than under 40,000. This may just mean that a larger city is more likely to have someone answering the telephone in a school district office who was not born in Upstate New York; but it may mean that larger cities are more likely to resist regional lexical innovations that differ from the national standard.

5 Implications for Dialect Diffusion

The locations of boundaries between dialect regions defined by phonological features are shaped by the constraints on phonological diffusion. That is to say, the geographical path of the diffusion of phonological change is influenced by the preexisting phonological systems of the communities

⁸In particular, Labov et al. find the Northern Cities Shift in one speaker in Rutland, the only southern-Vermont community they sampled. Sadly, we were unable to elicit any tokens of *elementary* from school districts in Rutland.

⁹In a map-drawing task in which they were asked to draw the borders of the major regions of the state (discussed in greater detail by Dinkin 2009:388–390), 17 out of 20 subjects from Central New York drew a boundary separating the "Downstate" region in the southeastern corner of the state from the "Upstate" remainder, though not always by those names.

the change might diffuse into; for example, a particular sound change might fail to diffuse faithfully into a community not because of the absence of the social forces that lead to dialect diffusion but because of an incompatibility between the diffusing sound change and the underlying phonological structure and other sound changes in progress in the community.

This is less likely to be the case when the innovation being diffused is an analogical change in an individual morpheme, like the stressed-penult *-méntàry* that is the subject of this paper. Such a lexically-specific change does not interact much with the other structural aspects of the linguistic system and is therefore unlikely to be prevented by preexisting linguistic systems when other conditions are favorable for its diffusion. This means that in some sense we can take the isoglosses for the stressed penult in *-méntàry* to represent the “natural” path of dialect diffusion, based on geography and communication patterns and not much influenced by internal linguistic constraints.

What this suggests is that unsystematic lexical features might be more inclined to “naturally” line up with popularly-recognized cultural regional boundaries than phonological features are—and thus we find that the boundary of the stressed penult appears to match the boundary between Upstate and Downstate New York. This hypothesis is further supported by the distribution in New York State of the best-known lexical variable in the United States, namely the choice between *soda* and *pop* to mean ‘carbonated beverage’. The *soda/pop* boundary, as shown by Labov et al. (2006) and Campbell (2003), passes directly through the core of the Inland North dialect region in New York State, separating the phonologically identical cities of Buffalo (where they say *pop*) and Syracuse (*soda*).¹⁰ But although the *soda/pop* boundary does not match the phonological dialect boundary, it does match the border between the culturally salient regions of Western and Central New York. So again, we find that a lexical isogloss is independent of major phonological isoglosses, but matches the boundary between locally recognizable regions.

Moreover, the status of the stressed penult as an analogical innovation suggests something about the potential objects of dialect diffusion. Labov (2007) argues that, since diffusion takes place through contact between adults from different dialect regions, it can directly affect only relatively surface-level linguistic entities, such as regular phonological rules or individual lexical items; speakers fail to take note of the abstract and structured relationships between linguistic objects. However, the *-mentary* data from Study I suggests that the object of diffusion in this case is the analogical change itself, rather than the changes in individual lexical items. As noted above, *elementary*, the most frequent of the *-mentary* words, is the least favorable to the stressed penult; and indeed, *elementary* appears to lag the change not only in the western and central area where the change to the stressed penult is most complete, but also in the eastern region to which the stressed penult seems to have spread more recently.¹¹

This is not what would be expected in a scenario where speakers in the process of diffusion never pay attention to lexeme-internal morpheme boundaries. If the object of diffusion were strictly the lexical item, one would expect the most frequent lexical item to be the *most* advanced in a change in progress in a region that change had diffused to; this is simply because more frequent lexical items have more opportunities to be propagated to speakers in new communities. But in fact the opposite is the case here; the most frequent word is still the least advanced in the change, even in the region to which the change appears to have diffused. This suggests that what is undergoing diffusion in this case is not the individual lexical items *elementary*, *documentary*, and so on, but rather the analogical change in the morpheme *-ary* itself, which is predicted to be least effective on the most frequent lexical item. So, insofar as diffusion only directly affects surface-level linguistic entities, as Labov (2007) argues, it appears that the morpheme *-ary* is sufficiently superficial to be thus affected.

6 Conclusion

To sum up, the main finding in this paper is that the stressed-penult pronunciation of *-mentary* words is very high-frequency across all of Upstate New York, affecting all *-mentary* lexical items. Study I gives us the general parameters of this variation over a relatively wide region; Study II

¹⁰Rochester, which is between Buffalo and Syracuse, shows variation between *soda* and *pop*.

¹¹The difference between *elementary* and other *-mentary* words is significant at the $p < 0.05$ level even when restricted to the eastern region, or restricted further to speakers who show variation in their own production.

gives us a very close look at the stressed penult's western limit; and Study III gives us a broad portrait of its overall extent. In general, it seems that the stressed penult has spread across New York State from west to east, in that it appears to be of fairly long standing near the western edge of the state and noticeably less complete near the eastern edge. The fact that *elementary* is less subject to the change than other *-mentary* words indicates that the stressed penult has its origin as an analogical change, which therefore suggests that dialect diffusion is capable of directly propagating changes in a bound derivational morpheme. The southern limit of the stressed penult follows the North/Midland boundary in northern Pennsylvania, but further east the path of diffusion does not correspond to other isoglosses; rather, its overall distribution is shaped by overt regional boundaries and communication patterns. The stressed-penult *-méntàry* pronunciation, therefore, can be seen as a unifying linguistic feature of Upstate New York.

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Aaron J. Dinkin
 Department of Linguistics
 Swarthmore College
 500 College Avenue
 Swarthmore PA 19081
ajd@post.harvard.edu

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Keelan Evanini
Educational Testing Service
Rosedale Road
Princeton NJ 08541
kevanini@ets.org